AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A system comprising:

a multi-sided module having a cavity housing a substrate;

n photoreceivers located on a side of the substrate and adapted to receive a beam of collimated light directed by a waveguide, the beam of collimated light comprising a laser light packet having n laser light pulses; ~~and~~

an integrated circuit (IC) positioned at the substrate to receive output from the ~~photoreceiver~~ n photoreceivers and configured to send k electronic pulses to a multiplexer;

a laser controller configured to receive k electronic pulses from the multiplexer; and

a laser light source configured to receive an input from the laser controller and to send a second laser packet having k light pulses.

Claims 2 and 3 (Cancelled)

4. (Currently Amended) The system of claim ~~2~~ 1, wherein the beam of collimated light comes from a network.

5. (Currently Amended) The system of claim 4, wherein n photoreceivers are connected to a first set of n transistors and include n photodetectors for converting the ~~first set of~~ n laser light pulses to ~~a first set of~~ n electronic pulses and n receivers for converting the ~~first set of~~ n electronic pulses to a first digitized packet.

6. (Currently Amended) The system of claim 5, further comprising:

~~a first set of~~ n latches for storing the digitized packet; and

~~a first set of~~ n buffers for amplifying and delivering the first digitized packet from the ~~first set of~~ n latches to the IC.

7. (Currently Amended) The system of claim 6, further comprising:

a second set of n transistors activated by a clock pulse, the second set of n transistors transferring the first digitized packet to the ~~first set of~~ n latches.

8. (Currently Amended) The system of claim 7, further comprising:

~~a second set of~~ k latches for storing a second digitized packet sent by the IC, where $k \geq 1$, the second digitized packet having ~~a second set of~~ k electronic pulses; and

~~a second set of~~ k buffers for amplifying and delivering the ~~second set of~~ k electronic pulses to a multiplexer.

Claim 9 (Cancelled)

10. (Currently Amended) The system of claim ~~9~~ 1, wherein k = n.

11. (Original) The system of claim 1, wherein $n \geq 1$.

12. (Original) The system of claim 1, wherein the laser light is injected horizontally into the substrate.

13. (Original) The system of claim 1, wherein the beam of collimated light has at least one wavelength.

14. (Original) The system of claim 1, wherein the substrate includes a first surface and a second surface opposite the first surface, the first surface is in contact with the module and the sides of the substrate and the second surface are not in contact with the module.

15. (Currently Amended) A system comprising:

a multi-sided module having a cavity housing a substrate;

n photoreceivers located at a plurality of sides of the substrate and adapted to receive a ~~first~~ laser packet having ~~a first set of~~ n laser light pulses;

~~a plurality of~~ waveguides located at the module directing the ~~first set of~~ n laser light pulses from the laser source to the n photoreceivers; ~~and~~

an integrated circuit (IC) located at the substrate receiving output from n photoreceivers and configured to send k electronic pulses to a multiplexer;

a laser controller configured to receive the k electronic pulses from the multiplexer; and

a laser light source configured to receive an input from the laser controller and to send a second laser packet having k light pulses.

16. (Currently Amended) The system of claim 15, wherein the ~~first set of~~ n laser light pulses comes from a network.

17. (Currently Amended) The system of claim 16, wherein n photoreceivers are connected to a first set of n transistors and include n photodetectors for converting the ~~first set of~~ n laser light pulses to ~~a first set of~~ n electronic pulses and n receivers for converting the ~~first set of~~ n electronic pulses to a first digitized packet.

18. (Currently Amended) The system of claim 17, further comprising:

~~a first set of~~ n latches for storing the digitized packet; and

~~a first set of~~ n buffers for amplifying and delivering the first digitized packet from the n latches to the IC.

19. (Currently Amended) The system of claim 18, further comprising:

a second set of n transistors activated by a clock pulse, the second set of n transistors transferring the first digitized packet to the ~~first set of~~ n latches.

20. (Currently Amended) The system of claim 19, further comprising:

~~a second set of~~ k latches for storing a second digitized packet sent by the IC, where $k \geq 1$, the second digitized packet having ~~a second set of~~ k pulses; and

~~a second set of~~ k buffers for amplifying and delivering the ~~second set of~~ k electronic pulses to a multiplexer.

Claim 21 (Cancelled)

22. (Currently Amended) The system of claim ~~21~~ 15, wherein $k = n$.

23. (Original) The system of claim 15, wherein $n \geq 1$.

24. (Original) The system of claim 15, wherein the laser light is injected horizontally into the substrate.

25. (Original) The system of claim 15, wherein the beam of collimated light has at least one wavelength.

26. (Original) The system of claim 15, wherein the substrate includes a first surface and a second surface opposite the first surface, the first surface is in contact with the module and the sides of the substrate and the second surface are not in contact with the module.

27. (Currently Amended) A method comprising:

directing a beam of collimated light through a waveguide positioned at a multi-sided module towards n photoreceivers located at a side of a substrate contained in a cavity of the module; ~~and~~

sending an output of the n photoreceiver to an integrated circuit (IC);

storing a second digitized packet received from the IC using k latches, where $k \geq 1$;

amplifying the second digitized packet received from the k latches using k buffers;

delivering the second digitized packet to a multiplexer;

sending k electronic pulses received from the multiplexer to a laser controller;

sending an input from the laser controller a laser light source; and

directing a second laser packet having k laser light pulses to the network.

28. (Currently Amended) The method of claim 27, wherein the beam of collimated light includes a first laser light packet, the laser light packet having ~~a first set of~~ n laser light pulses.

29. (Original) The method of claim 27, wherein the beam of collimated light comes from a network.

30. (Currently Amended) The method of claim 28, wherein the n photoreceivers are connected to a first set of n transistors and includes n photodetectors for converting the ~~first set of~~ n laser light pulses to a first set of electronic pulses and n receivers for converting the first set of electronic pulses to a first digitized packet.

31. (Currently Amended) The method of claim 30, further comprising:

sending a clock pulse to a second set of n transistors;

transferring the first digitized packet to ~~a first set of~~ n latches;

storing the first digitized packet at the ~~first set of~~ n latches;

amplifying the first digitized packet received from the ~~first set of~~ n latches using ~~a first set of~~ n buffers; and

delivering the first digitized packet from the first set of n buffers to the IC.

Claim 32 (Cancelled)

33. (Currently Amended) The method of claim ~~32~~ 27, wherein k = n.

34. (Original) The system of claim 27, wherein $n \geq 1$.

35. (Original) The system of claim 27, wherein the laser light is injected horizontally in to the substrate.

36. (Original) The system of claim 27, wherein the beam of collimated light has at least one wavelength.

37. (Original) The system of claim 27, wherein the substrate includes a first surface and a second surface opposite the first surface, the first surface is in contact with the module and the sides of the substrate and the second surface are not in contact with the module.

38. (New) A method comprising:

directing a beam of collimated light through a waveguide positioned at a multi-sided module towards n photoreceivers located at a side of a substrate contained in a cavity of the module;

sending an output of the n photoreceivers to an integrated circuit;

storing a second digitized packet received from the integrated circuit using k latches, where $k \geq 1$; and

directing a second laser packet having k laser light pulses.

39. (New) The method of claim 38, further comprising:

amplifying the second digitized packet received from the k latches using k buffers;

delivering the second digitized packet to a multiplexer;

sending k electronic pulses received from the multiplexer to a laser controller; and

sending an input from the laser controller to a laser light source

40. (New) The method of 38, wherein the beam of collimated light includes a first laser light packet, the laser light packet having n laser light pulses.

41. (New) The method of claim 38, wherein the beam of collimated light comes from a network.

42. (new) The method of claim 38, wherein directing a second laser packet comprises directing a second laser packet having k laser light pulses to a network.

43. (New) The method of claim 38, wherein the n photoreceivers are connected to a first set of n transistors and includes n photodetectors for converting the n laser light pulses to a first set of electronic pulses and n receivers for converting the first set of electronic pulses to a first digitized packet.

44. (New) The method of claim 43, further comprising:

sending a clock pulse to a second set of n transistors;

transferring the first digitized packet to n latches;

storing the first digitized packet at the n latches;

amplifying the first digitized packet received from the n latches using n buffers; and

delivering the first digitized packet from the first set of n buffers to the IC.